

## **A painful message: Testing the effects of suffering and understanding on punishment judgments**

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### **Appendix A** Supplemental Analyses

#### **Manipulation Checks: Did participants rate the perpetrator's level of understanding and suffering more highly when testimony was provided that he did in fact understand the wrongfulness of his actions and suffer from the punishment?**

Using a series of four one-way ANOVAs, we found that they did. As expected, for the less serious crime, participants rated the perpetrator as significantly more understanding of the wrongfulness of his crime when the therapist had testified in support of this fact,  $M = 1.024$ ,  $SE = 0.134$ , 95% CI [0.760, 1.288], than when the therapist provided opposing testimony,  $M = -1.038$ ,  $SE = 0.131$ , 95% CI [-1.295, -0.781],  $F(1, 512) = 120.812$ ,  $p < .001$ ,  $f^2 = .236$ . The same pattern held for the more serious crime,  $M = 0.263$ ,  $SE = 0.138$ , 95% CI [-0.007, 0.534] (understanding present) versus  $M = -1.194$ ,  $SE = 0.140$ , 95% CI [-1.470, -0.919] (understanding absent),  $F(1, 512) = 55.063$ ,  $p < .001$ ,  $f^2 = .107$ , though with lower levels of agreement than for the less serious crime.

Overall, participants tended to disagree with the statement that the perpetrator genuinely suffered as the result of his jail stay. But critically, they disagreed with it significantly less when the therapist had testified that he suffered than when he did not. This was true both for the less serious crime,  $M = -0.236$ ,  $SE = 0.115$ , 95% CI [-.462, -.010] (suffering present) versus  $M = -1.443$ ,  $SE = 0.112$ , 95% CI [-1.664, -1.223] (suffering absent),  $F(1, 512) = 56.350$ ,  $p < .001$ ,  $f^2 = .110$ , and for the more serious crime,  $M = -1.431$ ,  $SE = 0.098$ , 95% CI [-1.624, -1.239] (suffering

present) versus  $M = -2.340$ ,  $SE = 0.097$ , 95% CI  $[-2.531, -2.149]$  (suffering absent),  $F(1, 512) = 43.200$ ,  $p < .001$ ,  $f^2 = .085$ .

**Did support for the conventional punishment justifications (retribution, utility, rehabilitation, and communication) moderate the effects of suffering or understanding on sentencing recommendations?**

To address this question, we conducted a set of eight three-way ANOVAs with understanding and suffering as between-subjects factors, punishment justification ranking as a random factor, and sentencing change scores as the dependent measure. Consistent with expectation, all of the models for the less serious crime demonstrated significant main effects and interactive effects of understanding and suffering on sentencing change scores. However, none of these effects were moderated by punishment justification rank score (for all rank score interactions,  $p > .106$ ). For the more serious crime, understanding consistently exerted the predicted main effect on sentencing, but again, none of these effects were moderated by punishment justification ranking (for all rank score interactions,  $p > .094$ ).

**Did the effects of understanding and suffering on sentencing survive controls for political ideology?**

To answer this question, we conducted our original linear mixed model but with the addition of political ideology as a random factor. However, the original effects of understanding and suffering persisted when controlling for political ideology. There were significant overall effects on sentencing change scores exerted by understanding,  $F(1, 851.727) = 129.954$ ,  $p < .001$ , suffering,  $F(1, 832.672) = 23.619$ ,  $p < .001$ , and their interaction,  $F(1, 845.404) = 10.754$ ,  $p = .001$ , whereby participants changed their sentence (i.e., toward greater leniency) when the perpetrator suffered,  $M = 0.295$ ,  $SE = 0.089$ , 95% CI  $[0.120, 0.470]$ , than when he did not suffer,  $M = 0.971$ ,  $SE = 0.080$ , 95% CI  $[0.813, 1.128]$ , but only when he did not understand the wrongfulness of his actions,  $p < .001$ .

**Did gender moderate the effects of suffering and understanding on sentencing recommendations?**

To address this question, we conducted our original linear mixed model but with the addition of gender as a fixed factor. Gender did not exert a main effect on sentencing change scores,  $F(1, 511.101) = 0.787$ ,  $p = .376$ . Moreover, gender did not moderate the effect of suffering,  $F(1, 916.931) = 2.506$ ,  $p = .114$ . However, gender did interact with understanding,  $F(1, 922.064) = 5.556$ ,  $p = .019$ , indicating that when the perpetrator did not demonstrate understanding, sentencing recommendations increased among women,  $M = 0.628$ ,  $SE = 0.060$ , 95% CI  $[0.510, 0.746]$ , but not men,  $M = 0.425$ ,  $SE = 0.065$ , 95% CI  $[0.297, 0.553]$ . This pattern did not hold when understanding was present ( $p = .315$ ).

### **Did self-reported criminal trial involvement moderate the effects of suffering and understanding on sentencing change scores?**

Sixty-nine participants (13.42%) reported prior involvement in a criminal trial, either as a defendant or accuser. To address whether these experiences might influence participants' sensitivity to evidence about the perpetrator's level of suffering or understanding, we conducted our original linear mixed model but with self-reported criminal trial involvement as an additional fixed factor. However, trial involvement did not moderate the effects of understanding,  $F(1, 903.279) = 0.811, p = .368$ , suffering,  $F(1, 900.116) = 0.771, p = .380$ , or their interaction,  $F(1, 912.766) = 0.164, p = .686$ .

### **Did crime seriousness moderate the effects of understanding and suffering on punishment goal fulfillment?**

Using the same linear mixed model described above, we inspected interactive effects between crime seriousness and the other factors. Crime seriousness did not moderate the effects of understanding, suffering, or their interaction on sentencing change scores. However, satisfaction ratings showed evidence of moderation. First, crime seriousness exerted a main effect on satisfaction wherein participants were less dissatisfied by the prospect of early parole for the less serious crime (theft) than the more serious crime (aggravated robbery). Second, the effect of understanding on satisfaction was significantly greater for the less serious crime than the more serious crime. Specifically, while the presence of perpetrator understanding significantly increased satisfaction with the prospect of early parole across both crimes, this increase was greater for the theft than the robbery. However, the simple effect of understanding on satisfaction for the robbery was still significant. Third, the effect of suffering on satisfaction was also moderated by crime seriousness. In this case, evidence that the perpetrator suffered only increased satisfaction with the prospect of early parole for the theft, and not for the robbery. That is, the simple effect of suffering on satisfaction for the theft was significant, but the equivalent test for the robbery was non-significant. (See Table 1, Figures 2 and 4, and Appendix B.) On the whole, the seriousness of the crime had a limited moderating effect, curtailing the effects of understanding and suffering on punishment goal fulfillment at higher levels (i.e., robbery) but only for the satisfaction ratings, and not for the sentencing scores.

### **Did party perspective (personal victim of crime vs. impersonal) moderate the effects of understanding and suffering on punishment goal fulfillment?**

To answer this question, we constructed a MANOVA for each of the low and high seriousness crimes, using understanding, suffering, and party perspective as independent factors and sentencing change scores and parole satisfaction scores as the dependent measures. No evidence of moderation by party perspective was found.

For the less serious crime, the multivariate main effect of party perspective on punishment goal fulfillment was not significant,  $F(2, 505) = 2.730, p = .066, f^2 = .011$ .

Moreover, party perspective did not moderate the effect of understanding,  $p = .957$ , suffering,  $p = .405$ , or their interaction,  $p = .312$ .

For the more serious crime, a significant main effect of party perspective on punishment goal fulfillment was observed,  $F(2, 505) = 4.920$ ,  $p = .008$ ,  $f^2 = .019$ . This effect was limited to the satisfaction measure,  $F(1, 506) = 9.710$ ,  $p = .002$ ,  $f^2 = .019$ , wherein participants showed less satisfaction with the prospect of early parole when participants were portrayed as the victim ( $M = -2.194$ ,  $SE = 0.095$ , 95% CI [-2.380, -2.007]) than when they were not ( $M = -1.771$ ,  $SE = 0.097$ , 95% CI [-1.961, -1.581]). However, this pattern was not replicated using the sentencing change score,  $p = .436$ . Likewise, party perspective did not interact with understanding,  $p = .177$ , suffering,  $p = .473$ , or their interaction,  $p = .340$ . Thus, the effects of understanding and suffering on punishment goal fulfillment do not appear to depend on the punisher's perspective.

### **Individual differences in responsiveness to testimony on perpetrator understanding and suffering**

Our baseline sentencing measure afforded a unique opportunity to examine what proportion of participants did and did not change their sentencing recommendation following the understanding and suffering manipulations. To our surprise, the majority of participants chose to persist in their original punishment judgment (67.32% for the less serious crime, and 79.77% for the more serious crime). This uniformity of sentencing is surprising for two reasons. First, it means that the substantial restriction in within-subject variability was not sufficient to negate the predicted effects, suggesting that these effects were quite robust. Second, it might suggest that perpetrator suffering and understanding, at least as presented in our manipulations, are not sufficient to satisfy these individuals' punishment goals.

To address this latter possibility, we examined whether the participants with uniform sentencing recommendations might still be more satisfied with the prospect of early parole when the perpetrator demonstrated evidence of understanding and/or suffering. If uniform punishers truly do not value information about perpetrator understanding or suffering, then this information should not affect their satisfaction with early parole. Indeed, in the case of perpetrator suffering, that information did not influence satisfaction among the uniform punishers, according to a two-way ANOVA for the less serious crime,  $F(1, 342) = 2.304$ ,  $p = .130$ , or the more serious crime,  $F(1, 406) = 2.294$ ,  $p = .131$ . However, evidence of perpetrator understanding did increase satisfaction with early parole among these uniform punishers, *both* for the less serious crime,  $F(1, 342) = 9.072$ ,  $p = .003$ ,  $f^2 = .027$ , and the more serious crime,  $F(1, 406) = 4.047$ ,  $p = .045$ ,  $f^2 = .010$ . These uniform punishers were less dissatisfied with the prospect of early parole when the perpetrator of the less serious crime displayed understanding,  $M = 0.056$ ,  $SE = 0.156$ , 95% CI [-0.250, 0.362], than when he did not,  $M = -0.648$ ,  $SE = 0.175$ , 95% CI [-0.991, -0.305]. Similarly, they were less dissatisfied with the prospect of early parole when the perpetrator of the more serious crime showed evidence of understanding,  $M = -1.978$ ,  $SE = -0.096$ , 95% CI [-2.166, -1.791], than when he did not,  $M = -2.261$ ,  $SE = 0.103$ , 95% CI [-2.464, -2.058]. Thus, we find evidence of punishment goal satisfaction when the perpetrator demonstrates understanding

even among those who chose not to alter their sentencing recommendations. (See Appendix A for supplemental analyses.)

## Appendix B

**Table 2**

*Estimated marginal mean values, standard errors, and 95% confidence interval for sentencing change scores (in years) and satisfaction ratings as a function of evidence of perpetrator understanding, suffering, and crime seriousness.*

Understanding	Suffering	Crime Seriousness	Measure	<i>M</i>	<i>SE</i>	<i>df</i>	95% CI Lower	95% CI Upper
Absent	Absent	Low	Sentencing $\Delta$	0.827	0.074	514.375	0.681	0.973
			Satisfaction	-0.934	0.170	532.951	-1.267	-0.601
		High	Sentencing $\Delta$	0.811	0.107	514.362	0.601	1.02
			Satisfaction	-2.314	0.130	533.158	-2.569	-2.059
		<i>M</i>	Sentencing $\Delta$	0.819 <sup>e</sup>	0.065	883.543	0.691	0.947
			Satisfaction	-1.624 <sup>g</sup>	0.111	963.165	-1.842	-1.406
	Present	Low	Sentencing $\Delta$	0.176	0.075	514.369	0.028	0.323
			Satisfaction	-0.363	0.172	532.648	-0.701	-0.025
		High	Sentencing $\Delta$	0.429	0.112	514.337	0.209	0.649
			Satisfaction	-2.165	0.136	531.956	-2.432	-1.898
		<i>M</i>	Sentencing $\Delta$	0.302 <sup>e</sup>	0.068	869.907	0.169	0.435
			Satisfaction	-1.264 <sup>g</sup>	0.114	975.600	-1.488	-1.041
<i>M</i>	Low	Low	Sentencing $\Delta$	0.501	0.053	514.482	0.398	0.605
			Satisfaction	-0.649 <sup>h</sup>	0.122	538.038	-0.889	-0.408
		High	Sentencing $\Delta$	0.62	0.077	514.482	0.468	0.772
			Satisfaction	-2.239 <sup>i</sup>	0.095	538.133	-2.426	-2.053

Present	Absent	<i>M</i>	Sentencing $\Delta$	0.561 <sup>a</sup>	0.047	759.233	0.468	0.653
			Satisfaction	-1.444 <sup>b</sup>	0.083	814.339	-1.608	-1.280
		Low	Sentencing $\Delta$	-0.184	0.075	514.369	-0.332	-0.036
			Satisfaction	0.201	0.172	532.625	-0.137	0.539
		High	Sentencing $\Delta$	-0.345	0.109	514.351	-0.558	-0.131
			Satisfaction	-1.682	0.132	532.637	-1.942	-1.422
		<i>M</i>	Sentencing $\Delta$	-0.264	0.067	874.799	-0.395	-0.134
			Satisfaction	-0.74	0.113	962.858	-0.962	-0.518
	Present	Low	Sentencing $\Delta$	-0.413	0.078	514.351	-0.567	-0.259
			Satisfaction	0.618	0.179	531.673	0.267	0.970
		High	Sentencing $\Delta$	-0.397	0.105	514.368	-0.604	-0.189
			Satisfaction	-1.771	0.128	533.449	-2.024	-1.519
		<i>M</i>	Sentencing $\Delta$	-0.405	0.066	899.292	-0.534	-0.275
			Satisfaction	-0.577	0.115	938.709	-0.802	-0.351
		<i>M</i>	Sentencing $\Delta$	-0.298	0.054	514.482	-0.405	-0.192
			Satisfaction	0.41 <sup>h</sup>	0.126	538.160	0.163	0.657
		High	Sentencing $\Delta$	-0.371	0.076	514.482	-0.519	-0.222
			Satisfaction	-1.727 <sup>i</sup>	0.093	538.018	-1.910	-1.543
	<i>M</i>	M	Sentencing $\Delta$	-0.334 <sup>a</sup>	0.047	772.986	-0.427	-0.242
			Satisfaction	-0.658 <sup>b</sup>	0.084	812.271	-0.824	-0.493
		Low	Sentencing $\Delta$	0.321	0.053	514.482	0.218	0.425
			Satisfaction	-0.366 <sup>j</sup>	0.122	538.035	-0.607	-0.126
		High	Sentencing $\Delta$	0.233	0.076	514.483	0.084	0.383
		<i>M</i>						

		Satisfaction	-1.998	0.094	538.058	-2.182	-1.814
	<i>M</i>	Sentencing $\Delta$	0.277 <sup>c</sup>	0.047	774.528	0.185	0.369
		Satisfaction	-1.182 <sup>d</sup>	0.083	817.562	-1.345	-1.020
Present	Low	Sentencing $\Delta$	-0.119	0.054	514.482	-0.225	-0.012
		Satisfaction	0.128 <sup>i</sup>	0.126	538.159	-0.119	0.374
	High	Sentencing $\Delta$	0.016	0.077	514.482	-0.135	0.167
		Satisfaction	-1.968	0.095	538.111	-2.154	-1.782
	<i>M</i>	Sentencing $\Delta$	-0.051 <sup>c</sup>	0.048	789.683	-0.145	0.042
		Satisfaction	-0.92 <sup>d</sup>	0.084	829.235	-1.086	-0.755
<i>M</i>	Low	Sentencing $\Delta$	0.101	0.038	513.977	0.027	0.176
		Satisfaction	-0.119 <sup>f</sup>	0.09	513.519	-0.296	0.057
	High	Sentencing $\Delta$	0.125	0.054	514.001	0.018	0.231
		Satisfaction	-1.983 <sup>f</sup>	0.068	512.880	-2.117	-1.849
	<i>M</i>	Sentencing $\Delta$	0.113	0.034	511.631	0.047	0.179
		Satisfaction	-1.051	0.064	509.978	-1.177	-0.925

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*Note.* Significant pairwise comparisons denoted by matching letter pairs, using alpha = .05. <sup>a</sup>  $p < .001$ ; <sup>b</sup>  $p < .001$ ; <sup>c</sup>  $p < .001$ ; <sup>d</sup>  $p = .015$ ; <sup>e</sup>  $p < .001$ ; <sup>f</sup>  $p < .001$ ; <sup>g</sup>  $p = .017$ ; <sup>h</sup>  $p < .001$ ; <sup>i</sup>  $p < .001$ ; <sup>j</sup>  $p = .004$ .